

five year cures or five year immunity dropped from 60 per cent to 20 or 25 per cent. Also, at the end of ten years (this is a small group, only 9 cases), it fell to 10 per cent, although at the end of nine years there were still over 20 per cent alive as contrasted to 22 or 25 per cent at the end of five years. In the patients without venous involvement 46 of 85, or 55 per cent, were alive at the end of five years, and 14 of 31, again about 50 per cent, at the end of ten years. The veins were involved grossly and macroscopically in 10 instances. I am sure that if all specimens were examined carefully and stained for elastic tissue, venous involvement would probably be apparent in 20 or 25 per cent instead of about 10 per cent. At any rate, 3 of 10 patients were alive at the end of five years. The figure for five year survival was 60 per cent for those with cancer in the early stages, but it was only 33 per cent for those in whom the veins were involved. This is a plea for earlier diagnosis, because if one resects the lesion when it is limited to the mucosa, without infiltration of the mesenteric tract, then the veins will probably not become involved. For this entire group of 102 patients who were studied carefully and followed for a ten year period, we had a five year immunity rate of 52 per cent; eight years, 48 per cent; nine years, 49 per cent, and ten years, 43 per cent. If this is the best result with the most extensive operation that can be performed, how do surgeons hope ever to cure or have a survival rate equal to this with a lesser operation?

DR. R. K. GILCHRIST, Chicago: Of all the patients for whom the surgeon believes there is chance of cure, at least two thirds have involvement of the lymph nodes. One can predict exactly the spread of cancer through the lymph system. The lymph nodes act as filters to arrest the cancer emboli that land in these lymph channels and spread through them. If the surgeon does not remove these involved nodes, the patient will die of cancer later. When the tumor is partly or completely below the perineal resection, one cannot remove all the lymph drainage easily without removing the anus or destroying its ability to function. When I encounter enlarged nodes at operation, and they are metastasizing, I take the inferior mesenteric artery right off the aorta and clean the whole thing down and bring it out the transverse splenic junction as an internal colostomy. It is unlikely that a surgeon will ever be able to perform a radical resection of the lymph drainage if the lesion is even partly below the perineal reflex unless he removes the anus. He must remove the inguinal nodes if the lesion involves the skin. He must remove as widely as he can along the levators in order to get these nodes; and, upward, he must at least go 1½ inches (3.8 cm.) above the promontory; if there are many enlarged nodes, he had better take the inferior mesenteric right off the aorta. If the lesion is within the peritoneal cavity and he is able to reestablish continuity, he must not do so if there are many enlarged nodes, because retrograde metastasis does occur in such cases, and occurs at 2 and 3 inches (5 and 8 cm.). If he does try to reestablish them he will do so only after he has removed this much mesentery and this much lymph drainage and at least 1½ inches (3.8 cm.) or preferably 2 inches (5 cm.) of bowel, plus the mesentery below the lesion. If he does that and has circulation left with which to reestablish continuity, that is commendable. If not, he is not giving the patient a proper chance and has no business calling the operation a radical one.

DR. FRED W. RANKIN, Lexington, Ky.: Dr. Jones, Dr. Gilchrist and I agree that the radical operation, accompanied with a colostomy, is the best opportunity for cure of persons with cancer of the rectum. The spread by venous channels is something to which we have not paid as much attention as we should, but if there is anything that has been admitted by surgeons for cancer elsewhere in the body, it is that one must not operate for the local lesion, that one must take away the gland-bearing tissues in juxtaposition to the cancer and remove the second group of glands if one hopes to obtain a satisfactory end result. That is such an established principle, it seems extraordinary that so many persons would overlook it in dealing with cancer of the gastrointestinal tract and insist on a local operation merely to save the sphincter

mechanism. I do not believe that anyone can perform a radical resection of a cancer of the rectum and leave the levator ani in. If one is going to cure the patients, one must resort to widespread procedures which remove the glands. The spread mostly, as Dr. Gilchrist has shown, is in the upper direction to the superior mesenteric and hemorrhoidal vessels and laterally to the inferior rectal fossa and the fat there, and the levator ani. The fact that someone has rediscovered that Miles only claimed about 2 or 3 per cent of recurrences in the downward zone of spread has been given as a reason for doing these local excisions of cancer, with preservation of the sphincter. I think this sentimentality about saving the sphincter is ridiculous. Everyone who has performed a large number of these operations has seen as the result happy, perfectly well persons carrying on their functions with little or no disability. There are too many physicians—not surgeons, but too many internists—who see the patients early but who insist that a colostomy is a horrible thing. It is not horrible if it is needed, and the patient ought to have it where he can control it.

## EVALUATION OF PRESENT DAY TRENDS IN OBSTETRICS

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During recent years certain accepted principles for the care of the maternity patient and her infant have been challenged. Ideas have been expressed questioning the reality of labor pain or the need for analgesic and anesthetic drugs during labor. It has been claimed that labor pain is psychologically necessary for the mother. Furthermore, certain psychologic dangers to the newborn child have been suggested as arising from routine hospital nursery care and infant feeding.

These claims challenge principles and procedures that have been taught as sound modern obstetrics.<sup>1</sup> During the past two decades, with these principles in use, the maternal mortality rate in this country has become one fifth of that observed at the beginning of this period.<sup>2</sup> This gratifying reduction in the national maternal mortality rate reflects a general reduction in the three major causes of maternal deaths, puerperal septicemia, toxemia and hemorrhage.<sup>3</sup>

The recently advocated methods concern the conduct of pregnancy and labor and the care of the newborn child. These claims imply that there is possible psychologic harm to mother and child arising from the standard procedures and practices used in the course of pregnancy, labor, delivery and early infancy. Advocates of these claims have in common the belief that perhaps more "natural" ways of childbirth might be desirable.<sup>4</sup> It is important, therefore, to reexamine

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1. DeLee, J. B., and Greenhill, J. P.: *Principles and Practice of Obstetrics*, ed. 9, Philadelphia, W. B. Saunders Company, 1947. Irving, F. C.: *An Outline of Normal and Abnormal Obstetrics* (Revised ed.) Ann Arbor, Mich., Edwards Bros., 1944.

2. Potter, E. L., and Adair, F. L.: *Fetal and Neonatal Death*, Chicago, University of Chicago Press, 1949.

3. *Vital Statistics Rates in the United States, 1900-1940*, United States Department of the Census, Sixteenth Census of the United States, 1940.

4. (a) Read, G. D.: *Natural Childbirth*, London, William Heinemann, Ltd., 1933; (b) *Childbirth Without Fear*, New York, Harper Brothers, 1944; (c) *The Discomforts of Childbirth*, Brit. Med. J. 1: 651, 1949. (d) Dunbar, F.: Effect of the Mother's Emotional Attitude on the Infant, *Psychoneuro. Med.* 56: 156, 1944. (e) Goodrich, F. W., Jr., and Thoms, H.: A Clinical Study of Natural Childbirth, *Am. J. Obst. & Gynec.* 56: 875, 1948. (f) Deutsch, H.: *The Psychology of Women*, New York, Grune & Stratton, Inc., 1943, vol. 2. (g) Moloney, J. C.: *The Cornelian Corner*, *Psychiat. Quart.* 20: 603, 1946.

some of the beliefs in modern scientific obstetrics. It is also important to examine critically not only the facts, the logic and the claims of those raising these questions but the clinical value of the new methods as well, with the fact in mind that these methods are advocated during a period of obstetric progress reflected by a decided reduction of maternal and fetal mortality and morbidity. This is not to imply that present obstetric methods are entirely correct, or, in some instances, even adequate. However, the important question which must be answered here is whether these recently advocated methods result in better or worse obstetric care. Furthermore, we do not intend to circumscribe the definition of obstetric care but rather to include in the meaning of the term consideration not only of the life and the health but of the emotional welfare and the happiness of both mother and child. Sound obstetric care must concern itself with psychologic factors.

It should be noted that these new methods, which have been propounded in popular magazines<sup>5</sup> as well as in medical literature,<sup>6</sup> represent to a large extent the return to earlier concepts and practices. This reintroduction of older obstetric methods must not only interest those who are engaged in the care of the maternity patient and her child but also demand the attention of those interested in, or responsible for, construction, maintenance and administration of maternity units.

The central purpose of this paper is to analyze critically the methods suggested and to determine whether or not they have any scientific or practical virtues as related to present obstetric management and hospital procedure.

The claims for these methods pose at least seven questions. These questions are: 1. What scientific grounds are there for current statements to the effect that childbirth among primitive or noncivilized women is easy, not uncomfortable or complicated, and that recovery is rapid when compared with that of civilized women receiving modern obstetric care? 2. Are labor contractions actually painful? 3. What are some of the implications of the term prenatal influences? 4. Is pain during childbirth psychologically necessary for the mother? 5. Does the infant suffer psychologic damage from routine hospital nursery care? 6. Are special methods of infant feedings necessary for the ultimate happiness and psychologic health of the newborn child? 7. Should the present methods of the conduct of labor be replaced by the "natural" way?

#### OBSTETRICS IN PRIMITIVE PEOPLES

There exists currently a widespread obstetric belief that modern civilized women have great difficulties during labor in comparison with women who have lived or do live in less industrialized societies. Statements are made such as, "considering first the physical aspect of confinement and delivery among primitive peoples, we find a weight of evidence from many parts of the world to the effect that childbirth is easy and that the woman returns to her labor within a short time."<sup>7</sup> In a publication devoted to the psychology of women one finds, "At any rate it is generally considered an established fact that the reproductive process in primitive women is simpler than that in women 'degenerated by civilization,'"<sup>4f</sup> or, from another publication, "Civi-

zation and culture have brought influences to bear upon the minds of women which have introduced justifiable fear and anxieties concerning labor. The more cultured races of the earth have become, so much the more dogmatic have they been in pronouncing childbirth to be a painful and dangerous ordeal."<sup>4b</sup> Other writers, speaking of Eskimo women, said "They suffer little; they appear to be exempted from the curse of Eve and deliver their children with as little concern as is exhibited among the brutes,"<sup>7</sup> or, "Among primitive people, still natural in their habits and living under conditions which favor a healthy development of their physical organization, labor may be characterized as short, and easy, accompanied by a few aches and followed by little prostration."<sup>8</sup> Statements of this type appear in great number.

However, if one examines the original sources on which such remarkable statements are based, it is clearly apparent that no data are recorded, and hence there is no scientific or factual foundation for these statements. In order to know the facts about childbirth in the less industrialized ethnic groups, such as those of Indians, Africans and South Pacific Islanders, among others, actual observations are necessary. The studies should include: (1) carefully recorded data of observations on a significant number of women in labor made by some one competent to assess obstetric problems; (2) careful study of pain in these groups of women during the course of labor; (3) data describing the fetal and maternal mortality rates in these patients, and (4) follow-up studies giving data on the morbidity rate and the eventual medical, psychologic and social health, as well as the life expectancy, of both mother and child.

This would constitute a reasonable study and might well include some additional studies of a cross section of American women as well.

However, such reports as are available contain scarcely any observations pertaining to the birth process, and these observations are made up in a way which, unfortunately, has characterized so much of the anthropologic literature on this aspect of human reproduction, that is, by hearsay, anecdotes and, in some cases, possibly by bias and prejudice.<sup>9</sup> We arrived at this rather forceful conclusion after reviewing the major works on the subject, papers by anthropologists,<sup>10</sup> and, in addition, after examining the Cross

8. Englemann, G. J.: *Labor Among Primitive Peoples*, ed. 2, St. Louis, J. H. Chambers & Company, 1883.

9. Ploss, H. H., and Bartels, M.: *Women: An Historical Gynaecological and Anthropological Compendium*, London, William Heinemann, Ltd., 1935, vol. 2. Harley, G.: *Comparison Between the Recuperative Bodily Power in Man in a Rude and in a Highly Civilized State: Illustrative of the Probable Recuperative Capacity of Men of the Stone-Age in Europe*, *J. Anthropolog. Inst. Great Britain & Ireland* **17**: 108, 1887. Best, E.: *The Lore of the Whare-Kahu (Foetus House) and the Whare Koanga (Nest House)*, *J. Polynesian Soc.* **15-16**: 17, 1906-1907. Matthews, M. D.: *On the Manners, Customs, Religion, Superstitions, Etc. of the Australian Native*, *J. Anthropolog. Inst. Great Britain & Ireland* **24**: 186, 1895. Sumner and Keller,<sup>7</sup> Englemann.<sup>8</sup>

10. Barton, R. F.: *Philippine Pagans: The Autobiographies of Three Ifugaos*, London, George Routledge & Sons, Ltd., 1938. Best, E.: *Ceremonial Performances Pertaining to Birth as Performed by the Maori of New Zealand in Past Times*, *J. Anthropolog. Inst. Great Britain & Ireland* **44**: 135, 1914; *The Maori as He Was: A Brief Account of Maori Life As It Was in Pre-European Days*, New Zealand Board of Science and Art, Manual no. 4, Dominion Museum, Wellington, New Zealand, 1924. Donaldson, T.: *The George Catlin Indian Gallery in the United States National Museum (Smithsonian Institution) with Memoirs and Statistics: Annual Reports of the Board of Regents of the Smithsonian Institution to July 1885*, Washington Government Printing Office, 1886, pt. 5, pp. 530-531. Evans-Pritchard, E. E.: *Heredity and Gestation as the Zanda See Them*, *Sociologus* **8**: 4, 1932. Gilmore, M. R.: *Notes on Gynecology and Obstetrics of the Arrikara Tribe of Indians*, *Michigan Acad. Sc. & Arts & Letters* **14**: 71, 1930. Hildebrandt, J. M.: *Ethnographische Notizen ueber Wakamba und ihre Nachbarn*, *Ztschr. f. Ethnologie* **10**: 347, 1878. Hooker, J.: *Childbearing in Australia and New Zealand*, *J. Ethnol. Soc.*, London **60**: 70, 1868-1869. House, S. R.: *Notes on Obstetric Practice in Siam*, *Arch. Med.* **1**: 309, 1879. Jenness, D.: *The Life of the Copper Eskimo: Report of the Canadian Arctic Expedition 1913-1918*, vol. 12; Southern Party, 1913-1916; Ottawa, 1922. Junod,

(Footnote 10 continued in next column)

5. *Babies Are Welcome Here*, *Woman's Home Companion*, January 1949, p. 116. *Let's Feel Less Pain*, *Time Magazine*, Jan. 31, 1949, p. 54.

6. Read.<sup>4c</sup> Goodrich and Thoms.<sup>4e</sup>

7. Sumner, W. G., and Keller, A. G.: *The Science of Society*, New Haven, Yale University Press, 1927, vol. 3.



Cultural Survey at the Institute of Human Relations at Yale University. (Dr. Seymour Romney aided in searching the literature.)

Only one study could be found with recorded observations of a series of women in labor, that of Hrdlička,<sup>11</sup> a physician, who reported on the labor and delivery of 67 Pima and Apache women. From his reports the incidence of prolonged labor was 21.7 per cent. Labor of twenty or more hours from onset to completion of

TABLE 1.—Comparison of the Incidence of Prolonged Labor in Pima and Apache Women and Women in a Modern Obstetric Hospital

Year	Subject	No. of Cases	Prolonged Labor 20+ Hours
1908	Pimas and Apaches	69	21.7%
1940 to 1944	Boston Lying-In Hospital	11,507	1.8%
Significance ratio = $\frac{19.9}{\sqrt{22.5}} = 4.7$ Odds = 25,000 : 1			

the birth process is defined as prolonged labor. This frequency is significantly higher (significance ratio 4.7) than the 1.8 per cent which was the incidence of this syndrome in an attended group of patients at the Boston Lying-in Hospital.<sup>12</sup> The only other quantitative data are about recovery from parturition and the fact that the Navajo mothers (15 cases) do not return to their household duties for about a week after an uncomplicated delivery.<sup>13</sup> Hrdlička concluded, "... the healthy Indian women suffers ... quite as much and as long as does the normal white woman. ..." (table 1).

It is interesting to turn from the consideration of so-called primitive peoples to the consideration of groups of modern Americans who are less favored economically than others, specifically Negroes and Navajo Indians. The mortality rates of white and Negro mothers in the United States offer an opportunity to compare two groups, the white mother, with more scientific obstetric care, and the Negro mother, probably with more natural childbirth. Although there are many contributing factors, the fact that the maternal mortality in the Negro group is almost three times as

high as that in the white group<sup>2</sup> does not make one immediately enthusiastic about returning to more natural childbirth (fig. 1). Also, an estimated maternal mortality rate of 10 deaths per 1,000 live births has been reported recently for the Navajo Indians, an ethnic group often used for comparative purposes.<sup>14</sup> These observations do not support the principle that primitive surroundings and more natural childbirth are conducive to better maternal welfare. It would seem instead to support the belief that there is a great need for a further expansion of modern obstetric hospital facilities and trained personnel.

In summary, it can be said that there are no reliable data to support the opinion that the "primitive peoples," whom we prefer to call peoples of less industrialized societies, have babies without pain and without difficulty. There are no data which suggest that pain during labor is an artificial product of culture and civilization or that primitive obstetrics is so satisfactory that it should be adopted by the modern American hospital.

#### PAIN IN LABOR CONTRACTIONS

In a publication which devoted considerable space to the consideration of pain in labor, the point of view is expressed, "... nature did not intend labor to be painful."<sup>4b</sup> How nature's intention was revealed is not stated. The opinion is expressed that the simple sensations of uterine contractions are misinterpreted by the thalamus as pain.<sup>4b</sup> Apparently this writer believes that the patient eventually experiences something which feels like pain but "the cause of the uterine pain in uncomplicated labor is, therefore, due to the condition of the interpretation of sensations to which a woman is subjected." No data are offered to support the opinions and assumptions expressed by the author, and no data are offered to support the conclusions.

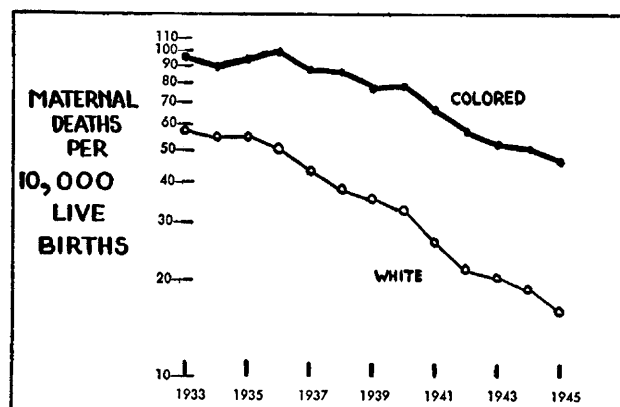


Fig. 1.—Chart showing the incidence of maternal mortality in white women as compared to Negro women. (Rates are charted on a logarithmic scale. After Potter and Adair, data from the National Office of Vital Statistics.)

The problem of estimating the presence and amount of pain accurately and quantitatively is a difficult one. Awareness of pain and the amount of pain are both subjective experiences. Little is known about pain and its quantitative aspects at best. There is perhaps to date no more reliable method, if a standardized technic of questioning and recording answers is used, of estimating whether or not a patient experiences pain than a statement from the patient that something is painful or is not painful. A recent study by Hardy and Javert attempted to estimate the amount of pain experi-

H. A.: The Life of a South African Tribe: Social Life, London, Macmillan & Company, Ltd., 1927, vol. 1. MacCauley, D.: Seminole Indians of Florida, Fifth Annual Report of the Bureau of Ethnology to the Smithsonian Institution, Government Printing Office, Washington, 1887, vol. 5, p. 497. Malinowski, B.: The Sexual Life of Savages in North-Western Melanesia: An Ethnological Account of Courtship, Marriage and Family Life Among the Natives of Trobriand Islands, British New Guinea; London, George Routledge Sons, Ltd., 1929. Man, E. H.: On the Aboriginal Inhabitants of the Andaman Islands, J. Anthropolog. Inst. Great Britain & Ireland 12: 87, 1882-1883; The Nicobar Islanders, J. Anthropolog. Inst. Great Britain & Ireland 19: 378, 1888-1889. Mead, M.: Sex and Temperament in Three Primitive Societies, New York, William Morrow & Company, 1935. Michelson, T.: The Autobiography of a Fox Woman: Fortieth Annual Report of the Bureau of American Ethnology to the Secretary of the Smithsonian Institution 1918-1919, Washington, Government Printing Office, 1925, pp. 291-349. Powdermaker, H.: Vital Statistics of New Ireland (Bismarck Archipelago) As Revealed in Genealogies, Human Biol. 3: 351, 1931; Life in Lesu: The Study of a Melanesian Society in New Ireland, New York, W. W. Norton & Co., Inc., 1933. Shattuck, G. C.: The Peninsula of Yucatan Medical, Biological, Meteorological and Sociological Studies, Washington, Carnegie Institute of Washington, 1933, p. 66. Starcke, C. N.: The Primitive Family in Its Origin and Development, New York, D. Appleton & Company, 1889, p. 52. Stevenson, M. C.: "The Sia," in Powell, J. R.: Eleventh Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Institution, Washington, Government Printing Office, 1894, pp. 136 and 143. Swanton, J. R.: Religious Beliefs and Medical Practices of the Creek Indians, Forty-Second Annual Report of the Bureau of American Ethnology to the Secretary of the Smithsonian Institution, Washington, United States Government Printing Office, 1925, pp. 473-672. deVidas, J.: Childbirth Among the Aranda, Central Australia, Oceania 18: 117, 1947. Wales, H. Q. Q.: Siamese Theory and Ritual Connected with Pregnancy, Birth and Infancy, J. Anthropolog. Inst. Great Britain & Ireland 63: 441, 1933. Sumner and Keller, Engclmann, Ploss and Bartels; Harley; Best, and Matthews.<sup>9</sup>

11. Hrdlička, A.: Physiological and Medical Observations Among Indians of Southwestern United States and Northern Mexico, Bureau Am. Ethnol. 34: 1-406, 1908.

12. Reid, D. E.: The Treatment of Prolonged Labor with Pituitary Extract, Am. J. Obst. & Gynec. 52: 1, 1946.

13. Kluckhohn, C.: Some Aspects of Navaho Infancy and Early Childhood, Psychoanal. & Social Sc. 1: 37, 1947.

14. Leighton, D., and Kluckhohn, C.: Children of the People, London, Cambridge University Press, 1948.

enced during labor by use of the Thermal Radiation apparatus.<sup>15</sup> The intensity of pain in labor was compared by the patient to the intensity of pain she experienced from a graded stimulus from this apparatus. The patient's awareness of the intensity of pain during labor was compared to the patient's awareness of intensity of pain in response to a known, quantitatively graded, painful stimulus. According to these observers, who made 55 measurements of pain intensity on 13 unmedicated patients during first, second and third stages of labor, pain began from threshold value to 2 dols (dol is a term used to denote a unit of pain and has a value of approximately one-tenth the intensity of maximal pain) in intensity and increased in intensity as labor progressed. During the second stage, pain intensity was reported as 10 to 10½ dols, the latter being ceiling pain, the most intense pain which can be experienced. The authors further observed that the intensity of pain in the first stage of labor was roughly proportional to the extent of cervical dilatation and inversely proportional to the duration of the interval between uterine contractions.

In "Childbirth Without Fear,"<sup>4b</sup> the statement appears, "... there is apparent evidence (the apparent evidence is not presented) that parturient women from whom education and treatment have eliminated fear so far as it is possible have no desire for reagents exhibited for the sole purpose of relieving physical pain." It is

TABLE 2.—Relation of the "Paranatal Physical Condition" to the Personal Adjustment in Childhood in 226 Children Between the Ages of 5 and 8 Years\*

Paranatal Physical Condition	Poorly Adjusted
Good (167 cases).....	19.2%
Poor (59 cases).....	39.0%

\* Stevenson.<sup>21</sup>

interesting to compare this statement with the expressed feelings of 196 British female physicians who have had babies and might also be considered educated as to the facts of pregnancy. In answer to the question, "Do you consider that relief of pain in childbirth is necessary," 90.8 per cent replied "yes" and 4.1 per cent replied "no." This group of mothers further felt that in 29 per cent of 425 deliveries they would have liked "more complete relief for the first stage" and in 103 of 425 deliveries 24 per cent would have liked more complete relief for the second stage of labor.<sup>16</sup>

It is concluded that there is no scientific evidence that labor contractions are not naturally painful. It is possible that many factors may tend to minimize or aggravate the amount of discomfort and pain that a patient experiences, but these factors have not as yet been evaluated scientifically by anyone.

#### IMPLICATIONS OF THE TERM PRENATAL INFLUENCE

During the last century much concern was felt by both patients and physicians that unusual experiences of the mother might affect the fetus. As an example of this belief the *American Journal of Obstetrics and Diseases of Women and Children* of 1848 reported a case of a mother who, during the course of pregnancy, came into contact with a sunfish—the infant was disfigured by a birthmark which resembled a sunfish.<sup>17</sup>

15. Hardy, J. D., and Javert, C. T.: Studies in Pain: Measurements of Pain Intensity in Childbirth, *J. Clin. Investigation* **28**: 153, 1949.

16. Pain in Childbirth, report of Subcommittee of the Medical Women's Federation, *Brit. Med. J.* **1**: 333, 1949.

17. Gardener, C. F.: Maternal Impressions, *Am. J. Obst. & Dis. of Women & Child.* **37**: 211, 1898.

Many similar instances are in the literature.<sup>18</sup> One finds today a recurrence of beliefs regarding the influence on the fetus of the emotional attitudes of the mother. A recent article states, "The physiology of the mother is changed when she is under emotional strain, and the effect of these changes is transmitted to the fetus through the placental circulation and in other ways."<sup>4d</sup>

This type of speculation is in sharp contrast to the recent scientific observations of prenatal influences affecting the newborn infant. These observations include studies of the fetus as related to human genetics,<sup>19</sup> the Rh factor in erythroblastosis,<sup>2</sup> the relation of infectious diseases, such as syphilis, to the condition of the child<sup>2</sup> and the production of malformations, including microcephaly and mental retardation, in the infant because of maternal German measles.<sup>20</sup> Recently information correlating the adjustment of the child in relation to its "paranatal physical condition" has become available<sup>21</sup> (table 2).

It can be concluded that these studies are good evidence that some prenatal influences do exist and that further scientific studies might yield valid knowledge of the mother-child interrelationship, even emotional influences, but anecdotes and uncontrolled statements are of little value.

#### PSYCHOLOGIC NECESSITY FOR PAIN IN CHILDBIRTH

It has been said that labor pain is a psychologic necessity for women. This is exemplified by the statement, "... and some degree of that gratification of that primary feminine quality that assigns pain a place as a pleasure experience in the psychologic economy, are precious components of motherhood, and an effort should be made to preserve them."<sup>4f</sup> It would appear that there is being conveyed the notion that it is necessary for women to suffer and that, if they miss the suffering that accompanies labor, there will be highly unfortunate results from this psychologic deprivation. However, there is no reliable evidence that women need experience pain in labor in order to remain normal and healthy. There are no follow-up studies of any kind to suggest that women who have not experienced pain during labor have developed any psychiatric symptoms or diseases or that they appear to have been harmed by escaping painful childbirth. It is implied that it is the pain of labor that is necessary for the mother and not simply the awareness of having had the baby. In deliveries made with caudal anesthesia, when the patient was aware of the proceeding but felt no pain, it is stated that the mother felt that the experience of delivery was "disappointing and empty."<sup>4f</sup> It is insinuated that in some way this is harmful to mother and child. It is obvious that there are two attitudes regarding the pain of labor. One is based on the idea that pain does not naturally exist in labor; the other contends that pain does exist and that it is psychologically important for the patient to experience this pain.

It has been further stated, "There is an increasing number of women who, without being actually neurotic, nevertheless behave in an unusual fashion after a

18. Ellis, H.: *Studies in Psychology of Sex*, New York, Random House, 1936, vol. 3.

19. Hogben, L.: *Nature and Nurture*, London, George Allen & Unwin, Ltd., 1939, p. 143. Snyder, L. H.: *Medical Genetics*, Duke University Press, 1941, p. 130.

20. Wesselhoeft, C.: *Rubella and Congenital Deformities*, New England J. Med. **240**: 258, 1949. Wesselhoeft, C.: *Rubella*, New England J. Med. **236**: 943, 1947.

21. Stevenson, S. S.: *Paranatal Factors Affecting Adjustment in Childhood*, *Pediatrics* **2**: 154, 1948.

technically perfect, painless delivery. Something has happened during childbirth to disappoint such women and fill them with horror, and this now prevents them from developing love for the newborn. The child remains associated with the horror, a rejected alien object."<sup>42</sup> No data are given to support the claim that there are an increasing number of women who behave in this unusual fashion. No facts are presented about this lack of "love for the newborn," and nothing is really told about what actually may have happened to the "rejected alien object." On the whole, this could be classified as a fairly irresponsible statement which might be a source of worry to a mother who takes this type of "psychology" seriously.

There is one disease in pregnancy, puerperal psychosis, in which the mother characteristically feels that the baby is not her own, that it is not all right or that it is not as she expected. It should be noted that since the introduction of analgesia at the Boston Lying-in Hospital (1931) there has been no increase in this illness (table 3). The prevalence of anxiety neurosis and hysteria in patients of the Boston Lying-in Hospital, where analgesia and anesthesia are used extensively in labor, was no different than that of the general population. In 100 women interviewed there during the puerperium there were no cases of hysteria and 5 cases of anxiety neurosis (criteria for these disorders described elsewhere<sup>22</sup> were used). The prevalence of anxiety neurosis in the community is 5.6 per cent, according to one study.<sup>23</sup>

A recent report of a study made in this country states that, of 156 women who were delivered, 80.7 per cent received little or no medication and 19.3 per cent received either more prolonged anesthesia or the usual amount of analgesia or anesthesia.<sup>46</sup> However, one half of the patients received some analgesic drugs or some anesthetic gas in analgesic amounts. It was further stated that when the patient required drugs to relieve the pain that was being experienced, the authors believed that the predominant factor was usually "deep-seated anxiety noted after the labor started." It is not clear how this deep-seated anxiety was defined or detected or how it was learned that anxiety rather than some other factor (possibly the presence of pain) caused the request for analgesic drugs.

These women were asked by questionnaire whether they wanted to have their next babies the same way. Of 148 patients, 125, or 84.5 per cent, said "yes." As part of a study being conducted at the Boston Lying-in Hospital, where analgesia is used in labor, the same question was asked. In reply, 72 per cent of 86 women wanted to have the next baby the same way; 84.9 per cent wanted it the same way or with more analgesia and/or less awareness of delivery, and 3.5 per cent wished to have no analgesia or more awareness of delivery.<sup>24</sup> These proportions of 84.5 and 84.9 per cent are not statistically different.

The conflicting data of these two questionnaires emphasize the inaccuracies of poll opinions, which have been increasingly obvious.<sup>25</sup> The selection of

patients, the exposure of patients to certain types of hospital practices and teaching and the phrasing of the questions all might influence the validity of the answers.

Although the claim is made that pain during labor is good for women, there are no data to support this viewpoint. Further, there are no psychologic data to support the claim that natural childbirth is "psychologically desirable" for most women.<sup>46</sup>

#### PSYCHOLOGIC DAMAGE TO THE INFANT

In providing for the care of the newborn infant in American obstetric units, technics have been developed, one purpose of which is the prevention of infection. These methods involve the partial isolation of infant and mother and the relatively complete isolation of one infant from another. The babies are housed in nurseries which are intended to provide the maximum baby care with the minimum of hospital personnel. With this system the mother feeds the child, but the remainder of the care of the infant is the responsibility of the nurse in charge of the nursery. It has been stated that this procedure provides a source of remote psychic danger to the infant. It has been implied that there is an increased amount of neurosis in this era of civilization<sup>26</sup> which is in some way related to the technics described, that is, to the period of separa-

TABLE 3.—Incidence of Psychiatric Diseases in the Puerperium of Women at the Boston Lying-in Hospital \*

	Size of Sample	Rate: Cases per 1,000
Anxiety neurosis.....	100	0.050
Hysteria.....	100	0.000
Puerperal psychosis.....	2,595	0.002

\* There was no evidence of excessive psychiatric disease associated with the use of analgesia.

tion of the infant from its mother during the first few days of its life.

Similar, and supposedly relevant, problems in the life of the dinosaur are raised thus: "The female (dinosaur) laid the eggs in the sand and left the infants in the hands of fate. . . there are some modern parents who seem to think this was a good idea. . . they seem even to prefer to be dinosaurs.

"Scientists . . . are apt to speculate on what went wrong with the system. After careful study, we can safely assume that one cause of their extinction was lack of relationship with their young." The details of this "careful study" were not presented.<sup>27</sup>

It has been stated, "Some physicians who have had the opportunity to study feeding behavior and disorders in young children, together with the neuropsychiatric disturbances of adults, have expressed the opinion that the separate care of maternity and newborn patients in the hospital and the extension of the hospital's rigid schedule into the home has offered a favorable medium for the growth of unnecessary conflict between mother and child."<sup>28</sup> It has further been stated that mothers and babies are happier when they can be together from the moment of birth and that the mother "will have no fears when she goes home because she is already

22. Wheeler, E. O.; White, P. D.; Reed, E. W., and Cohen, M. E.: Neurocirculatory Asthenia (Anxiety Neurosis, Effort Syndrome, Neurasthenia): A Twenty Year Follow-Up Study of One Hundred and Seventy-Three Patients, J. A. M. A., to be published. Purcell, J. J.; Robins, E., and Cohen, M. E.: Observations on the Clinical Aspects of Hysteria; Unpublished data.

23. Wheeler, E. O.; White, P. D.; Reed, E. W., and Cohen, M. E.: Familial Incidence of Neurocirculatory Asthenia (Anxiety Neurosis, Effort Syndrome), J. Clin. Investigation 27: 562, 1948.

24. Cohen, M. E.; Stern, R., and Reid, D. E.: Unpublished data.

25. Report on the Analysis of Pre-Election Polls and Forecasts, Pub. Opinion Inst. 12: 598, 1948.

26. Jackson, E. B.: Rooming-In Gives Baby a Good Start, The Child, April 1948, Federal Security Agency, Children's Bureau.

27. Ribble, M.: The Rights of Infants, New York, Columbia University Press, 1943.

28. Jackson, E. B.: General Reactions of Mothers and Nurses to Rooming-In, Am. J. Pub. Health 38: 689, 1938.



well acquainted with her baby."<sup>29</sup> However, no data have been offered in support of such assertions. They remain purely speculative and might be frightening threats to the magazine-reading mother.

From the standpoint of personal choice, preference and pleasure, there seems to be no reason why, within the limit of a definite hospital's facilities, a mother should not have the right to take care of her baby or play with her baby when and if she pleases. She should not be made to feel, however, that she is shirking her duty if she prefers to have the nurse take the care and responsibility of the baby and wishes to have a rest from home, work and routine, nor should she be threatened with unfounded rumors as to the future unhappy lot of the baby whose mother abandons it to the care of the nurse and nursery. Thus far there is evidence that having the baby at the mother's bedside is a safe hospital procedure.<sup>30</sup> It has been suggested that there may be certain pediatric advantages in this type of arrangement.<sup>30</sup> Successful breast feeding and a better acquaintance with the methods of early infant care were believed to be promoted by this arrangement. However, there may be certain disadvantages.

It is not known whether there is more or less demand for nursing care and supervision when the baby is constantly at the mother's bedside, in contrast to the usual nursery plan. When a free choice is given the mother, the demand for this type of service may not be great. During the past two years "rooming-in," a term used to describe the baby's residence at the mother's bedside, has been optional in the private pavilion of the Boston Lying-in Hospital. The prospective mothers have had opportunities to know that this service was available through publications and from the physicians on the staff. Granting that different members of the staff had varying degrees of enthusiasm for this method, the fact that only 60 mothers in approximately 6,000 deliveries, an incidence of 1 per cent, chose to have the baby living with them throughout their hospital stay would indicate that there is not a great spontaneous demand for this type of service in this institution. It appears that certain patients do desire to have their babies with them throughout their hospital stay, and some who have participated in this plan find it pleasant and are enthusiastic about it.<sup>30</sup> This is, however, different from statements that harm accrues to children who do not spend the first week of their lives in this manner and that this method "can offer protection against some of the severe emotional difficulties of children which the routinized child care regimens of yesteryear have encouraged."<sup>31</sup>

#### SPECIAL METHODS OF INFANT FEEDINGS

Patients on occasion ask the obstetrician whether, from the standpoint of psychologic considerations, the baby should have breast feeding or bottle feeding. The Chairman of the Committee on Maternal and Child Feeding of the National Research Council concluded a recent investigation of this problem by stating, "Although there is a voluminous literature on the subject of the emotional value of breast feeding to both

mother and baby, it is regrettable that concrete evidence on this point is difficult to obtain. This is particularly regrettable in the rather emotional treatment the subject is receiving in both medical and lay circles. The necessary evidence will have to come from long observations on the development of the personalities of both breast-fed and artificially fed infants."<sup>32</sup> A review of the emotional aspects of this subject was recently made by Orlansky,<sup>33</sup> who concluded that there is no evidence today which shows that bottle feeding is preferable to breast feeding, that breast feeding is preferable to bottle feeding or that the manner in which each are performed has any effect on the psychologic development of the child.

There has been some concern over the merits of scheduled feedings versus nonscheduled feedings for infants. Nonscheduled feeding is advocated with almost the same positiveness with which it was formerly claimed that a child must be fed regularly by the clock in order that it would not develop "bad habits." It is now maintained that regular feeding is psychologically bad and that the child should be fed on a "self-demand" schedule. The exact definition of the self-demand feeding is not clear, but the purpose of it is to feed the child when it is hungry rather than at scheduled times. Since the infant cannot say when it is hungry, in practical terms this amounts to the mother offering to feed the child when it cries without an explanation, when it continues to cry even with an obvious explanation, when it seems to be hungry and also when it seems to be meal time for the child. It is implied that the child who is not fed when it cries may later develop into an "anxious" person. The type of evidence in support of this point of view, that is, unsupported speculation, is contained in quotations such as these: "To the white child whose feeding and other routines are rigidly scheduled, the mother or nurse . . . must appear incalculable. It seems plausible that many children develop an unconscious conviction that each individual is alone in life. To the Navajo baby on the other hand, others must appear warmer and more dependable, for every time he cries something is done for him,"<sup>13</sup> and, "The parent who responds to a clock rather than to the behavior of the child is from the child's point of view not responsive at all. . . . If the rewards which a child receives bears no consistent relation to his behavior . . . an apathetic or an anxious or hostile individual is likely to result."<sup>13</sup>

It does not seem proper for physicians to advise mothers on the method of infant feeding purely on the basis of such unfounded speculation. Social scientists today offer advice to physicians on the basis of what has been observed about one feature of life in one group, such as the Okinawans,<sup>34</sup> the Japanese<sup>35</sup> and the Navajoes,<sup>13</sup> with no evidence that these observations are really applicable to medicine or to the American life, although plausible remarks or intriguing analogies may be contained in their statements.

Until a study is actually done in which infants, in sufficient numbers of comparable groups, are fed on scheduled feedings and self-demand feedings, with

29. Jackson, E. B.: *Mother and Babies Together*, The Parents Magazine, October 1947, pp. 18-19.

30. Montgomery, T. L.; Steward, R. E., and Shenk, E.: Observations on the Rooming-In Program of Baby with Mother in Ward and Private Service, *Am. J. Obst. & Gynec.* 57: 176, 1949.

31. Jackson, E. B.; Olmstead, R. W.; Foord, A.; Thoms, H., and Hyder, K.: A Hospital Rooming-In Unit for Four Newborn Infants and Their Mothers, *Pediatrics* 1: 28, 1948.

32. Aldrich, C. A.: The Advisability of Breast Feeding, *J. A. M. A.* 135: 916 (Dec. 6) 1947.

33. Orlansky, H.: Infant Care and Personality, *Psychol. Bull.* 46: 1, 1949.

34. Moloney, J. C.: *The Cornelian Corner and Rationale Publications: Problems of Early Infancy*, New York, Josiah Macy, Jr. Foundation, 1947.

35. Benedict, R.: *The Chrysanthemum and the Sword Patterns of Japanese Culture*, Boston, Houghton Mifflin Company, 1946.

adequate follow-up studies made into adult life, there is no reason to state that the psychologic future of the child is safe or is endangered by either type of feeding.

#### METHODS OF THE CONDUCT OF LABOR

A discussion of these methods of maternal and child care which have been recently advocated would not be complete without a comparison of the results between the methods used in most obstetric hospitals and those which have been recently suggested.<sup>36</sup> The conduct of labor in the "natural" way has been described as a procedure of noninterference when the presentation and position of the baby is normal at the onset of labor. Little or no analgesia or anesthesia is used with this method, but suggestive therapy is prominent.

Since the days of those pioneer physicians, James Y. Simpson and Walter Channing, humanitarian obstetricians and physicians have been interested in the development of analgesic drugs and anesthetic agents to relieve the pain associated with the birth processes. During recent years in this country Hingson and Hellman at the Johns Hopkins Hospital,<sup>37</sup> Lull and his associates at the Philadelphia Lying-in Hospital,<sup>37</sup> Irving,<sup>38</sup> and more recently Hershenson,<sup>39</sup> at the Boston Lying-in Hospital, as well as many other investigators, have added materially to the knowledge and technics of the control of pain during labor. Indications and contraindications have been established for the different methods and technics. It is evident that the ideal method which will insure complete relief from pain in all patients is not yet available. Figure 2 reveals the fetal and infant mortality (all stillbirths and neonatal deaths occurring in babies from the twenty-eighth week of gestation) at the Boston Lying-in Hospital for a period of time prior to and following the introduction of analgesic drugs to the present. The general improvement in obstetric care over the years is probably reflected in these results. It would be helpful to compare this fetal mortality, in cases in which analgesia and anesthesia have been used during labor and delivery, with that associated with natural childbirth, but at present this is impossible because the fetal results from the latter method have as yet to be completely reported.<sup>6</sup> In the absence of such data it is reasonable to conclude that the well controlled use of analgesic drugs and anesthetic agents to relieve pain during labor has not produced any increase in fetal and infant mortality. As a matter of fact there is a continuing decrease of this mortality. Furthermore, there have been studies which reveal that analgesia and anesthesia may be associated with the lowest fetal mortality rate.<sup>37</sup>

A recent article in the *British Medical Journal*<sup>40</sup> suggests that, in addition to the psychology and neurology, the obstetrics of "natural" childbirth should be carefully evaluated. The actual delivery with the method which the author prefers to call "natural" childbirth is described as follows:

It is not a feeling of actual tension or tearing but of burning. If you ask them to describe the pain they will say "they are burning or stinging down below."

That sensation has a neurological basis. It is very largely due to the fact that certain nerve receptors go out of action

before others (epicritic before protopathic) leaving nociceptors to record certain sensations of vulval sensibility. But this disappears quickly in the large majority of women and there is almost complete anesthesia of the perineum within one half to three quarters of an inch of the vulval margin. There is no pain. The woman feels only a sudden release, and afterwards what appears to be a massive laceration, which if it occurred in any other part of the body would cause considerable pain, has been sustained almost without her knowledge, and she is disappointed when she is asked to submit to the insertion of stitches.

This description of the actual birth of the child is certainly different from that to which modern obstetrics is accustomed. This reintroduction of a method which women of earlier generations had to accept for obstetric care is not, in our opinion, compatible with the best interest of either mother or child. The prolonged second stage necessary to distend the perineum and cause such a demolition of the perineal tissues of the mother, in order to allow the baby to be born in the manner so vividly described above, must on occasion produce severe brain trauma to the fetus.<sup>40</sup> The fact that perineotomy may on occasion be resorted to by the advocates of this method "when the perineum is blanching" is simply a bow to the value of the pro-

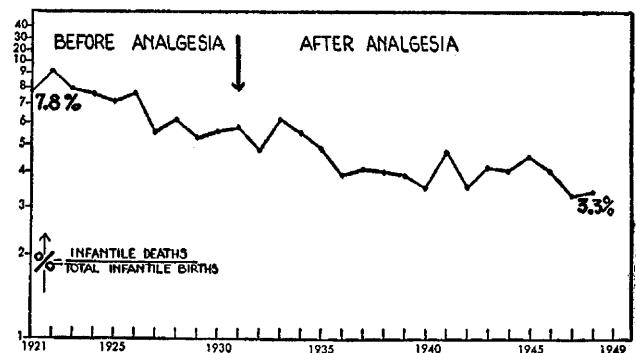


Fig. 2.—Chart showing the continued decrease in the infantile death rate (including all stillbirths and neonatal deaths occurring after the twenty-eighth week of gestation) at the Boston Lying-in Hospital from 1921 to 1949, before and after the introduction of analgesia. (Rates are charted on a logarithmic scale.)

cedure without the performance of the operation at the proper time. Should one wait for the blanching effect of the perineum, the levator ani muscles and the fascia of the pelvic floor would have already become so severely damaged and separated from each other that reestablishing the support to the pelvic floor would become an unsatisfactory procedure. The inability to reestablish this support adequately will result in gynecologic lesions that will need surgical attention at some later date.<sup>40b</sup> In a well documented study of 2,800 primiparas—95 per cent of whom were delivered by hospital interns—Aldrich and Watson clearly showed that the use of perineal incision and elective low forceps gave superior results with respect to fetal mortality and permanent vaginal injuries. With the use of frequent elective low forceps (26 per cent) and the routine use of episiotomy performed at the correct time, the pelvic tissues at the follow-up examination showed healing and good perineal support.<sup>41</sup> Only preliminary

36. Read,<sup>4a, b, c</sup> Goodrich and Thoms.<sup>4e</sup>

37. Hingson, R. A., and Lull, C. B.: *Control of Pain in Childbirth*, ed. 3, London, J. S. Lippincott Company, 1948.

38. Irving, F. C.; Berman, S., and Nelson, H. B.: *Barbiturates and Other Hypnotics in Labor*, *Surg., Gynec. & Obst.* **58**:1, 1934.

39. Hershenson, B. B.: *Premedication and Anesthesia in Obstetrics*, *New England J. Med.* **239**:429, 1948.

40. (a) DeLee, J. B.: *The Prophylactic Forceps Operations*, *Am. J. Obst. & Gynec.* **1**:34, 1920-1921. (b) Aldridge, A. H., and Watson, P.: *The Analysis of End Results of Labor in Primiparas After Spontaneous Versus Prophylactic Methods of Delivery*, *Am. J. Obst. & Gynec.* **30**:554, 1935. (c) Dunster, E. S.: *The Use of Obstetric Forceps in Abbreviating the Second Stage of Labor*, *Tr. Mich. M. Soc.* 1877-1880, pp. 107-137.

41. Nelson, H. C., and Abramson, D.: *The Advantages of Conservative Obstetrics As Shown by Examination Six Weeks Post-Partum*, *Am. J. Obst. & Gynec.* **41**:800, 1941.

and incomplete data, concerning specially selected patients, have thus far been presented about the results of "natural" childbirth.<sup>42</sup> Until the standard obstetric data are presented regarding the length of the different stages of labor as well as the total length of labor, the type and incidence of operative deliveries, the maternal, fetal and infant morbidity and mortality and the condition of the pelvic tissues when examined late in the puerperium, as well as many other items of an obstetric nature, one cannot draw any conclusion regarding the soundness of the obstetrics of "natural" childbirth. Until this is possible, the method cannot be recommended for use in modern obstetrics except under controlled experimental conditions.

#### COMMENT

We have examined and evaluated some of the present day trends pertaining to personal and psychologic aspects of pregnancy. Many of the claims and conclusions regarding the question under discussion were found to be unsupported by scientific data. They are based on assumptions and sometimes unclear statements. One might argue fruitlessly each point indefinitely, taking up interesting pros and cons, but until real facts are at hand the answers will not be known. If modern obstetrics has become inhuman or psychologically incorrect, it is important that physicians know it and discover what to do about it.

Contemplation of some of these views suggests that they are not innovations but are attempts to revive old beliefs and old practices. Some aspects of one of the identical problems were aptly summarized in 1847 by Sir James Y. Simpson,<sup>43</sup> who stated, in discussing the views of those who believed it was bad for women to have medicine to relieve the pain of childbirth:

Medical men will, no doubt, earnestly argue that their established medical opinions and medical practices should not be harshly interfered with by any violent innovations of doctrine regarding the non-necessity and nonpropriety of maternal suffering. They will insist on mothers continuing to endure, in all their primitive intensity, all the agonies of childbirth as a proper sacrifice to the conservation of the doctrine of the desirability of pain. They will perhaps attempt to frighten their patients into the medical propriety of this sacrifice of their feelings, and some may be found who will unscrupulously ascribe to the new agency any misadventure, from any causes whatever, that may happen to occur in practice. . . .

We had intended to examine only the psychologic side of the assertions about pregnancy and childbirth. However, in reviewing this literature, we found conspicuous gaps in the obstetric aspects of the subject which demanded attention. It was readily observed that basic obstetric data were lacking from these reports, and it is not clear whether the "psychologically based" practices represent good obstetrics.

Scientific psychology and scientific obstetrics are not incompatible. However, it would appear hazardous at this stage of its development to allow pure psychologic speculation to determine obstetric decisions. Emphasis on the psychologic aspects of this problem should not obliterate the teaching of sound obstetrics.

#### CONCLUSIONS

1. Modern obstetrics has participated in many recent therapeutic advances, such as chemotherapy and blood transfusions, which are based on scientific facts and which definitely have been important in the improved care of mother and child. Since modern obstetrics shows an encouraging record of advances in fundamentals, such as improved maternal and fetal mortality rates, suggestions related to the return to previous obstetric practices demand critical evaluation before they are adopted.

2. There is a current myth which states that primitive women have babies with greater ease and less pain than do modern women. Examination of the anthropologic literature shows that there is absolutely no factual basis for this notion.

3. Many ideas, such as the effect of prenatal maternal influences on the infant, concerning the relationships of mother and child have appeared over the ages. Some of these ideas are valid and some are not.

4. Extravagant claims have been made recently which suggest (a) that labor really is not painful or (b) that it is painful but that the pain is psychologically necessary for the mother. Some persons may hold both views, although they seem to be mutually contradictory. There are no factual data to support these notions.

5. It has been stated that psychologic harm accrues to the child raised in the nursery and not at his mother's bedside and that without nonscheduled breast feeding the child may have a blighted psychologic future. These claims are not based on substantial data and may be frightening to mothers.

6. Since these ideas are based on unproved psychiatric and anthropologic speculations and not on facts, they are premature as practical guides to obstetric management or to hospital procedure.

7. The obstetric details and results of the type of obstetric practices in which psychologic interests predominate have not yet been reported and await further evaluation.

8. Scientific psychology and scientific obstetrics are not incompatible.

9. The correct answers to questions raised by some present day claims about the personal and psychologic aspects of pregnancy await scientific investigation in the future and will not be known until properly controlled studies are made.

#### ABSTRACT OF DISCUSSION

DR. SPRAGUE H. GARDINER, Indianapolis: This critical review by Drs. Reid and Cohen is both timely and necessary. They have shown that the claims of psychologic harm resulting from the routine nursing care in maternity hospitals have not been proved, and they have also shown that the psychologic benefits of the so-called natural childbirth have not been proved. Several years ago, at the Johns Hopkins Hospital, I had the opportunity of carrying on a psychosomatic investigation of various obstetric problems. As part of the study, my associates and I chose 15 normal pregnant women and followed them through the antepartum course, through delivery and through the postpartum period in an endeavor to discover the normal psychologic reactions to these experiences. These women were managed during their labor according to the routine of the clinic, and they received analgesia and anesthesia as indicated. Our conclusions, based on careful postpartum follow-up were: 1. These women were grateful for the relief

42. Read, G. D.: Observations on a Series of Labours with Special Reference to Physiological Delivery, *Lancet* 256: 721 (April 30) 1949. Thoms, H., and Goodrich, F. W.: Training for Childbirth, J. A. M. A. 140: 1256 (Aug. 20) 1949.

43. Simpson, J. Y.: Remarks on the Superinduction of Anesthesia in Natural and Morbid Parturition, with Cases Illustrative of the Use and Effects of Chloroform in Obstetric Practice, Boston, William B. Little & Company, Chemists and Druggists, 1848.



of pain afforded them during their delivery, and none felt that there had been any interference with the full happiness of becoming a mother as a result of the analgesia and anesthesia. 2. They all experienced a genuinely healthy mother-child relationship. The type of infant feeding, whether by breast or bottle or on the hour or on demand, seemed to make little difference in determining the quality of the mother-child relationship. 3. There were specific personality and situational factors which did enable these women to make a normal adjustment to pregnancy and labor and which later enabled them to develop healthy mother-child relationships. These factors were not related to the exact experience of labor, nor were they related to the exact experience of nursing. They were related to the degree of maturity of personality of the patients, the degree of stability and love in the environment and the strength of the genuine desire for the pregnancy and the child. There is need for careful psychosomatic study of many obstetric problems. Information obtained by sound methods of psychosomatic research will definitely augment obstetric knowledge and permit continued improvement in the management of obstetric patients.

DR. GORDON R. KAMMAN, St. Paul, Minn.: I am not sure that the conclusions based on the reports of 196 women physicians who had babies is particularly convincing. Their so-called education to the facts of pregnancy was acquired relatively late in their lives. The attitude of a woman toward the pain of childbirth is more basic and has its origins much earlier in life, probably in the first ten years. In order to interpret the reaction to the pain of childbirth, physicians really should study the attitude of the mother's mother on the attitude of the mother with whom they are dealing. What was the semantic orientation? In a particular family is it a traditional requirement that childbirth be inescapably painful? Regarding the question of whether pain is psychologically necessary for the woman, I am in complete agreement with Drs. Reid and Cohen. I have known a number of women for whom childbirth has been practically painless, and they are normal mothers. If any women fail to develop love for their newborn children, I am convinced that it is not because they failed to have a painful delivery. The most frequent cause for the emotional blunting is a postpartum neurosis or psychosis. Does the infant suffer permanent psychologic damage from nursery care? Theoretically, the mother and infant should be together as much as possible after the birth of the child. Rene Spitz of New York, in an illuminating study of the growth and development of foundlings as compared with children nursed and cared for by their own mothers, found that emotional deprivation, and emotional deprivation alone, could have a devastating and sometimes fatal effect on the infant. However, I do not feel that the first few days in the hospital are as important as some believe, although I do believe that the mother should assume full charge and permit the infant to enjoy the anacletic relationship as soon after birth as possible. Should the baby be breast fed every time it cries? Although crying is a form of evocative speech, it is undifferentiated. Therefore, unless the various causes for crying were investigated each time the infant cried and a differential diagnosis were made by the mother or mother substitute, I cannot see the rationale of the belief that an infant should be fed every time it cries. Moreover, if oral gratification is equated with relief of all forms of physical discomfort, it is conceivable that a generation of orally fixated persons could be produced.

DR. ARTHUR JENNINGS MANDY, Baltimore: Read's contribution, "Childbirth Without Fear," has been widely misinterpreted by the medical as well as the lay public, to mean childbirth without pain. It is doubtful that Read ever contended that all women could have babies without labor pains, at least I have thus far not been able to find such claim in any of his published work. Read intended to emphasize that with a better interpersonal relationship between the expectant mother and her attending physician, the amount of analgesic drugs employed in labor could be reduced. With this in mind, I believe the point is in good order. Drs. Cohen and Reid are

correct in the data they have presented. The elaborate rituals developed by primitive peoples for the relief of pain in childbirth and preserved throughout the centuries indicate that the tribal woman also experienced considerable discomfort. I concur with Dr. Gardiner's impression of the emotional immaturity of many of the women who have been delivered by natural childbirth. This immaturity can be repeatedly demonstrated in the routine replies of patients to postpartum questionnaires. Such apologetic statements as, "I am sorry that I did not behave too well, but I will try to do better next time," characterize the anxious-to-please, immature type of personality. The hysterical person, moreover, can often develop conversion phenomena, and this represents the type of patient and mechanism (modification of hypnosis) that frequently is easily adapted to Dr. Read's technic. Dr. Read has made a point of stressing that his work is not related to hypnosis. I have been able, nevertheless, in my work at the Sinai Hospital in Baltimore, to induce complete anesthesia, sufficient to introduce a trocar in a patient's extremity, by means of what Dr. Read describes as simple relaxation technic. I call it hypnosis. My associates and I believe that relaxation exercises and suggestion are merely modifications of hypnotic technics, which form the basis on which a reduction in analgesic drugs can be accomplished. Physicians should bear in mind that no one is trying to eliminate the administration of analgesia but that some persons are simply trying to minimize it to levels of safety for both mother and child.

DR. DUNCAN E. REID, Boston: To humanize medical care and to create an atmosphere of friendliness in hospitals is a most laudable purpose. To expel the fears and anxieties that patients have toward medical institutions and procedures is an important part of the art of medicine and certainly is not restricted to any particular phase of medical practice. Some physicians possess the ability to obtain the confidence of the patient more easily than others. With respect to the maternity patient, the ability to accomplish this is a most valuable asset. Certain technics may be developed which appear to abolish fear and readily establish confidence. No doubt these technics have not been completely exploited in all fields of medicine. It has always been evident to the discriminating physician that detailed explanation of the patient's treatment by demonstration or by detailed description might sometimes create additional fears and apprehensions. Regardless of the technics to be used, the maternity patient will develop confidence in her physician if she has a feeling of assurance that the proper procedure will be done at the proper time and in the proper manner. In this particular instance, the problems in question are no doubt complex, and to suggest dogmatically at this time that one way is superior to another will deter the further accumulation of scientific knowledge in the field of maternal and child health. Solution to these problems will require more data than will many other medical problems, for these questions must not be answered by decision, authority or analogy or by attempting to work out the answers from unproved psychologic theories. The answers await further scientific work.

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**Patience, Delicacy and Secrecy.**—Patience and delicacy should characterize the physician. Confidences concerning individual or domestic life entrusted by patients to a physician and defects in the disposition or character of patients observed during medical attendance should never be revealed unless their revelation is required by the laws of the state. Sometimes, however, a physician must determine whether his duty to society requires him to employ knowledge, obtained through confidences entrusted to him as a physician, to protect a healthy person against a communicable disease to which he is about to be exposed. In such instance, the physician should act as he would desire another to act toward one of his own family in like circumstances. Before he determines his course, the physician should know the civil law of his commonwealth concerning privileged communications.—Section 2, Chapter II of the PRINCIPLES OF MEDICAL ETHICS of the American Medical Association.